Saving by borrowing? Motives to join a Tanzanian microcredit organisation

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Abstract

This paper investigates microcredit as a strategy for overcoming constraints to saving, using data from the microfinance institution PRIDE Tanzania. My hypothesis is that many people join PRIDE because they are unable to save due to weakness of will, conflicting interests in the household or claims from extended family. This hypothesis is supported by publications that demonstrate that other financial tools have been used to overcome these constraints. My empirical investigation shows that a large share of PRIDE loans is spent on other purposes than income-generating activities, contrasting the conventional explanation of microcredit. Both quantitative data from surveys and qualitative responses from the in-depth interviews confirm that weakness of will, conflicting interests in the household and claims from extended family are real concerns, though only a small minority agree that these are the reasons why they borrow from PRIDE, rather than save. Furthermore, both responses to survey questions and an experiment in the form of a lottery confirm and underline that women generally have less bargaining power in the household than men do. These findings give particular weight to the household allocation motive.

Preface

There are three people in particular that I would like to thank for all their advice and assistance:

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1 Introduction

In this paper I discuss microcredit as strategy for overcoming constraints to saving, using data from the microfinance institution PRIDE Tanzania. My hypothesis is that people join PRIDE because they are unable to save due to weakness of will, conflicting interests in the household or claims from extended family. I address these three explanations separately in the theoretical part, and focus specifically on the gender dimension in the empirical investigation. Using data that shows an uneven distribution of power in the household, I aim to demonstrate how microcredit can increase the bargaining power of women. I do not propose that overcoming saving constraints is the main motivation people have for joining PRIDE, but that it can supplement more conventional explanations.

Microfinance, the provision of financial services to poor people, is an important topic in light of its position in the development discourse. According to Bateman (2010, pg. 1), microfinance has "(…) in just thirty years risen to become one of the most important policy and programme interventions in the international development community". His point is underlined by Armendariz and Morduch (2010), who in the preface to the second edition of "The Economics of Microfinance" estimate that the number of microfinance clients has tripled from 67 to 200 million since their first edition five years earlier. But although scores of studies have been undertaken on the topic (ibid), there are still many disagreements and unanswered questions and microfinance has received both praise and criticism in recent years. There is anecdotal evidence of poor people who have benefitted greatly and lifted themselves out of poverty, but also of people being trapped in debt. Of the few large-scale randomized evaluations that have been undertaken, Banerjee et al. (2010) found that access to microcredit increased the investments among people identified as entrepreneurs, while people identified as having "a low propensity to start a business" on average increased their consumption through credit. The authors found no impact on measures of health, education, or women's decision-making. With the growing realisation that microcredit is not a magic bullet, there has been an increased focus on other aspects of the financial lives of the poor (Collins et al., 2009, Rutherford, 2009). In recent years, the term "microfinance" has replaced the term "microcredit", based on the recognition that financial needs of poor people go beyond loans to include services such as saving and insurance.

In writing this thesis, I have been affiliated with a research project at NHH Norwegian School of Economics on entrepreneurship and microfinance. The principal aim of this project was to analyse the impact of business grants and business training on microenterprise development through a field and lab experiment in Dar es Salaam, Tanzania, where microfinance clients from the institution PRIDE Tanzania made up the sample. The main result so far is that business training had a positive effect on the income of male entrepreneurs, but no significant effect on the income of female entrepreneurs. Business grants had no significant impact on the income of neither male nor female entrepreneurs (Berge et al., 2011). These somewhat surprising results lead the authors to suggest that human capital is a more binding constraint than financial capital, but that women face other constraints that prevent them from utilising this human capital.

Furthermore, the common microfinance narrative is that of a poor person (usually woman) who receives credit that enables her to develop her business. As her business grows, she[1] is able to both repay the loan and keep a profit for herself. High marginal returns to capital follows from the "diminishing returns principle" (Armendariz & Morduch, 2010): As poor people have little capital, a little more will have a large impact. However, the surveys show that borrowers spend on average around 60 percent of the loans on income-generating purposes. Of the business-related spending, stock (or inventory) makes up the largest share. This means that a large share of the loans is spent on other purposes, and the share spent on indivisible investments is modest. Borrowing from a an institution such as PRIDE carries a lot of costs in terms of a high interest rate, the time spent at meetings, and the risk of having to pay the loans of others through the system of joint liability. The findings that a large share of the loans is spent on other purposes than business, and cash transfers did not increase income, suggest that the narrative of capital constrained entrepreneurs does not tell the full story.

The hypothesis I put forward in this paper is that overcoming constraints to saving is an important explanation for why people join PRIDE. An individual may wish to spend a lump sum of money on a specific purpose, but is unable to save because he is tempted to spend the savings on immediate consumption, because his spouse wishes to spend the money on other purposes, or because his extended family requests that the money is contributed to an

[1] I alternate between using "he" and "she", more or less at random.

upcoming wedding. By financing this lump sum expenditure with a loan, repayment replaces saving, and his fellow members will enforce strict sanctions if he doesn't follow through.

My hypothesis is primarily based on findings from the literature that suggest that other financial instruments are used to overcome constraints to saving. These include Gugerty (2005) on ROSCA (Rotating Savings and Credit Association) participation as a precommitment strategy for overcoming present-biased preferences, Anderson and Baland (2002) on ROSCA participation as a strategy for women to improve their bargaining position in the household, and Baland et al. (2007) on participation in credit cooperatives as a strategy for individuals to give their kin the impression that they do not have savings. Furthermore, Collins et al. (2009) and Rutherford (2009) argue that although the poor use a range of different financial instruments, there are some basic needs all these instruments aim to fulfil. Rutherford also point out that the difference between saving and borrowing is not always clear cut, which suggest that the findings from ROSCAs can be relevant to microcredit as well. Based on this, and other papers presented in the literature review, I discuss weakness of will, conflicting interests in the household, and claims from extended family as three distinct constraints to saving. But although these three explanations have separate theoretical and empirical justifications, the individual may not necessarily distinguish clearly between them. Establishing whether saving constraints in general is a motivation for joining microfinance institutions is therefore a main aim.

Section 2 provides a brief introduction to Tanzania, the MFI PRIDE Tanzania, and what has come out of the NHH research project so far. Section 3 presents a literature review of the three mechanisms: Present-biased preferences, conflicting interests in the household, and claims from extended family. In section 4, I argue why these mechanisms are applicable and relevant for PRIDE members. In section 5, I address this question further in the light of empirical findings from surveys and in-depth interviews.

2 The context

This section briefly introduces the country, the organisation and the research project.

2.1 Tanzania

Tanzania is located in East Africa and had in 2008 a population of approximately 42.5 million inhabitants (UN data, 2011). Despite of an average annual GDP growth of 7 percent the last 10 years (IMF, 2011), the country remains among some of the poorest in the world. It is ranked as number 148 out of 169 countries on the Human Development Index, an index which includes life expectancy, literacy, and income (UNDP, 2011). The population is young, as 44 % of the population is 14 years or younger. The life expectancy at birth is 56.2 and 54.6 for women and men respectively (UN data, 2011).

As in many other developing countries, there is a lack of formal employment opportunities. Only 5 % of the population is employed in the industrial sector, while 75% of the population in employed in the agricultural sector (according to UN data (2011), 75% of the population live in rural areas). A large share of the population is therefore involved in the informal economy. Becker (2004, pg. 18) refers to results from a survey from 1991 that estimates that “34% of total households in mainland Tanzania are engaged in informal sector activities at any given point of time in the year. The proportion is much higher in urban areas with a peak of 55% of households in Dar es Salaam”. Informal activities are often combined with agriculture or formal employment. The leading business in the informal economy is, according to Becker, the sale of local beer, which “by itself provides employment to about 15 percent of the total workforce”. In Dar es Salaam however, the leading business is selling cooked food. The informal sector employs more men than women, 28 and 15 percent of total employment respectively.

As with formal employment, getting access to formal financial services can pose a challenge for Tanzanians. According to a comprehensive survey from 2007 (Financial Sector Deepening Trust), only 9 percent of the population has access to formal financial services (such as banks), and 54 percent has no access to even informal services. The numbers are striking, although one could debate precisely what it means to be excluded from informal services such as ROSCA's, as these are services a group of individuals could start together if they so wished. In the urban population, 18 percent has access to formal financial services, and another 2 percent to microfinance institutions. People also use different kinds of services at the same time, 14 percent of bank account holders also save with an MFI, and 7 percent of bank account holders borrow from an MFI.

2.2 PRIDE Tanzania

PRIDE Tanzania is a Tanzanian microfinance institution, established in 1994, with headquarters in Arusha. PRIDE is an abbreviation of "Promotion of Rural Initiative and Development Enterprises". The organisation currently serves 70 000, clients, in 48 branches across the country (Berge et al, 2011). Approximately 65% of the borrowers are women (MIX market, 2011). MIX market ranks PRIDE as the second largest organisation in Tanzania (based on numbers from 2009, the most recent), both in terms of gross loan portfolio and number of active borrowers. Interestingly, it is registered with a 0.00 % write-off rate (value of loans written-off / average gross loan portfolio), while scoring the highest level of transparency.

The organisation describes the structure as a based on a modified Grameen model, targeting individuals who run microenterprises worth less than 700 US$ (PRIDE Tanzania, n.d.). The Grameen model entails a system of group lending with joint liability, where clients are required to meet at the PRIDE office for a one hour meeting and repayment every week. Each individual belongs to an "Enterprise group" (EG), consisting of 5 people, and a "Market Enterprise group" (MEC) consisting of 10 EG's. The practice of joint liability means that each borrower is responsible for every loan being repaid in her EG, and ultimately for all the other members of the MEC (ibid.). In practice, the doors are locked when the weekly meeting starts and people are not allowed to leave until all payments have been made. This system of joint liability is designed to replace the need for collateral with peer pressure.

The first PRIDE loan is worth 100 000 Tsh. Each time the loan is repaid, the client can access a larger loan, until she reaches the limit of 1 000 0000 (approximately 600 US$ at the time of writing). The interest rate charged is a flat rate of 30 percent (Henriksen & Svoldal, 2010). This entails that 30 percent of the initial loan is added as interest, after which the total is divided by 50 and repaid over the next 50 weeks. The annualised interest rate (APR) is substantially higher. A consequence of the flat rate system is that the interest remains the same, even if the client repays the loan faster than scheduled. To get loans beyond the first cycle, the client must keep savings worth at least 25 percent the loan as insurance. PRIDE does not currently offer the clients the opportunity to deposit savings beyond the required savings.

Each MEC elects a chairperson, treasurer and secretary, who are responsible for registering the payments and passing them on to the cashier in the PRIDE office. If a member exits an EG, it is the responsibility of this EG to find a new member. This member must then be approved by the MEC, which sends representatives to inspect the business premise. If a whole EG exits, the MEC is responsible for replacing it (Henriksen & Svoldal, 2010). PRIDE also offers a second loan product for entrepreneurs called the “Fahari loan” for clients who have successfully climbed the MEC loan ladder. The Fahari loan is an individual loan, and clients are required to present collateral. Clients also need recommendation from their respective MEC groups to advance.

2.3 Introduction to the research project

The project started in 2008 with a baseline survey of the respondents from the project’s partner, the microfinance institution (MFI) PRIDE Tanzania. Afterwards, the project offered a business course and a business grant to a randomized subset of the respondents, followed by a follow-up survey in 2009, lab experiments, and a second follow up in 2011.

For the project, a sample of 644 PRIDE clients was selected from 2 branches in Dar es Salaam called Magomeni and Buguruni. Only clients at the second or third step of the loan ladder were considered, which means that they were eligible for loans of 500 000 and 1 000 000 Tanzanian shillings (TSh) respectively. The reason for this was that the dropout rate among first time borrowers is higher. Approximately half the sample of 644 was then offered business training in a course consisting of 21 lectures of 45 minutes. The lectures had topics related to marketing, customer service, managing workers and business records, among others. The course was developed by the Entrepreneurship Centre at the University of Dar es Salaam (UDEC) and piloted extensively in advance. The course was then taught in Swahili by professionals from UDEC. In addition to the business course, a sample of both untrained and untrained respondents received a business grant of 100 000 Tsh, which is approximately the equivalent of the cost of the training (Berge, et al., 2011).

The results of the interventions was interestingly a 20-30 percent increase in profit from business training among male entrepreneurs, but no significant effect on female entrepreneurs. The business grant had no significant effect on business performance for men or women. The authors (Berge, et al., 2011) describe these findings as puzzling, and proceed to discuss possible explanations. The paper shows that in terms of business practices, training led to significant changes in the areas of employee relations, marketing and record keeping. Notably, male entrepreneurs became more prone to fire employees, while female became more likely to give bonuses. Furthermore, male entrepreneurs were better at marketing and expanding into commerce than female. However, this doesn't tell us why training had different impacts on business practices for men and women.

The paper proceeds by addressing internal constraints. An analysis of the mind-set of entrepreneurs, based on a lab experiment with incentivized questions and games, aimed to measure business knowledge, willingness to compete, confidence, risk preferences, time preferences and more. On business knowledge, the paper concludes that "the observed difference in impact from training on business practices and business performance cannot be explained by females not benefitting in business knowledge from the course" (Berge, et al., pg. 35). The training increased the confidence of female entrepreneurs and made male entrepreneurs more risk averse, thereby eliminating gender differences. "Time preferences" showed no significant gender difference or treatment effect. However, male entrepreneurs proved to have a significantly higher willingness to compete, with no effect from training. The authors argue that this difference in willingness to compete may be one important factor for explaining the different effects on men and women.

The authors continue by discussing external constraints that are more binding to women than men. This includes household responsibilities. The surveys show that women work closer to home and on average 10 hours less each week. Furthermore, 79 percent of men knew their wives income in a normal month, while only 45 percent of the women. As the authors put it, "it seems reasonable to assume that domestic obligations and lack of influence over business decisions make females less able to implement business knowledge from the training program" (ibid, pg. 38). The paper than concludes that:

> An important policy implication from our research is thus that more comprehensive measures are necessary in order to promote development among female entrepreneurs, paying greater attention to their motivation for joining microfinance and to the external constraints which may limit their ambitions (Berge et al., 2011, pg. 41).

The part of the project where I have been involved was the 2011 survey, where I participated as an interviewer over a period of 6 weeks.

3 Literature review

In this section, I present some of the literature on self-control, household conflicts, and claims from extended family that may make it difficult to save for the individual.

3.1 Present-biased preferences and self control

The most conventional model of intertemporal choice discounts utility exponentially. It is referred to as the discounted-utility model, and was created by Paul Samuelson in 1937 (Frederick, Loewenstein, and O'Donoghue, 2002). On discrete form, it can be described as follows (Gugerty, 2005):

$$U_t(u_t, u_{t+1}, \ldots, u_T) = \sum_{\tau=t}^{T} \delta^{\tau}\, u_T$$

The discount factor, δ^{τ}=$\frac{1}{1+\rho}$ $^{\tau}$, where ρ is the discount rate. As ρ>0, 0> δ>1. This exponential discounting model gives time-consistent intertemporal preferences (Rabin, 1998). This, in turn, implies that if an individual prefers 1000 shilling today, rather than 1500 in one month, he also prefers 1000 shilling in 12 months to 1500 shilling in 13 months.

On the other hand, time-inconsistency or present-biased preferences "occurs when the best policy currently planned for some future period is no longer the best when that period arrives" (Cukierman, 1992, in Elster, 2000 pg. 24). I also use the term, “weakness of will”. It means giving in to the temptation of something that gives an immediate reward, although you know this is not the best decision in the long run. This concept is relevant in a discussion of saving and borrowing, because saving means making short run sacrifices for a long run gain. Although an individual may have the intentions of saving for a specific good, he may decide to spend his remaining income and tell himself he will start saving in the next period. People who keep telling themselves they will start a diet tomorrow are another example. The individual may be modelled as many separate agents at different points of time, with each agent aiming to maximize its utility (O'Donoghue &Rabin, 1999).

Although these are situations we can recognize from our daily lives, the concept contradicts an assumption commonly used among economist: that an individual's preferences are consistent over time (Rabin, 1998). The alternative approach can be found in the field of behavioural economics, where scholars draw upon psychological research to criticise and supplement some of the conventional assumptions of human behaviour within economics. Rabin (2002, pg. 660), list a range of examples: that "(…) people are Bayesian information processors; have well-defined and stable preferences; maximize their expected utility; exponentially discount future well-being; are self-interested, narrowly defined; have preferences over final outcomes, not changes; have only "instrumental"/functional taste for beliefs and information".

Hyperbolic discounting is a way of describing time inconsistency. Elster (2000; 25) provides the intuitive explanation that "perhaps the central intuition behind this view is that individuals have a strong preference for the present compared to all future dates, but are much less concerned with the relative importance of future dates". A common way of modelling hyperbolic discounting is the "quasi-hyperbolic" discount function introduced by Phelps and Pollack in 1968 (Gugerty, 2005):

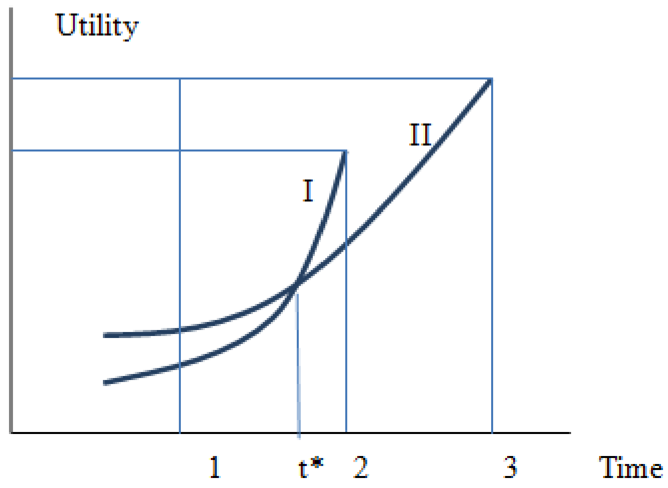
$$U_t = \delta^t u_t + \beta \sum_{\tau=t+1}^{T} \delta^\tau u_t$$

This model is also referred to as "β-δ preferences". The difference between this model and the discounted utility model is the time-inconsistent parameter, β. $\beta<1$ implies that even if the discount factor $\delta=1$, an individual will get more utility from period τ when it arrives than any previous period.

Hyperbolic discounting can also be illustrated as in the figure below, presented in Elster (2000, pg. 30). At time 1, an individual is faced with the choice between a small reward at time 2 and a larger reward at time 3. The present value of choosing the larger reward at time 3, represented with curve II, is larger than choosing the smaller reward at time 2, represented with curve I. However, at one point between time 1 and time 2, denoted t*, the present utility of choosing the smaller reward at time 2 becomes higher than waiting for the larger reward.

The possibility of a short-term gain becomes more important than the individual's long term interest.

Figure 1: Hyperbolic preferences



(Elster, 2000, pg. 30)

Analogously to present-biased preferences, Elster (2000) discusses passion as a reason why people deviate from their original plans. Elster (2000, pg.7) defines "“passion” in an extended sense that covers not only emotions such as anger, fear, love, shame, and the like, but also states such as drunkenness, sexual desire, cravings for addictive drugs, pain, and other “visceral” feelings”. Being under the influence of alcohol, for instance, may change your preferences and behaviour. Elster further discusses four mechanisms: Passion may distort your beliefs about the consequences of an action; it may blur out the thoughts of consequences entirely; it may induce weakness of will, so that the individual knows he is acting against his better judgement but can't stop himself; and it may change how the person weighs the consequences, such as immediate consequences versus future consequences. Frederick, Loewenstein, and O'Donoghue (2002) further propose to use Kahneman's (1994, in Frederick, Loewenstein, and O'Donoghue, 2002) distinction between “experienced utility”, reflecting welfare, and decision utility, reflecting the attractiveness of options. Passion may increase the latter without affecting the former.

When making the decision to save, an individual with present-biased preferences may have different beliefs on how his future self will choose between saving and consuming. At the one extreme, the naive individual believes the preferences of his future selves are identical to his current preferences. At the other extreme, the sophisticated individual knows the preferences of his future selves (O'Donoghue and Rabin, 1999). O'Donoghue and Rabin demonstrate that a present-biased individual, under certain conditions, will procrastinate in a situation with immediate costs, and preproperate in a situation with immediate rewards. They further show that sophisticates will procrastinate less than naifs. However, sophisticates may actually increase the preproperation, as they realise that waiting is no realistic option. However, O'Donoghue and Rabin point out that a middle ground between sophistication and naivety is more realistic.

3.2 Precommitment

An individual who realises that he will be tempted to deviate from his long-term plan may take steps to constrain his future options through precommitment. The most famous example of a precommitment strategy is perhaps the story from the Odyssey that Elster refers to in his title, “Ulysses unbound”. Ulysses knows that he will not be able to resist the song of the Sirens, and therefore ties himself to the mast and orders his crew to plug their ears with beeswax. A more contemporary example is “Freedom”, a computer programme that blocks your internet access: "Freedom frees you from distractions, allowing you time to write, analyze, code, or create. At the end of your offline period, Freedom allows you back on the internet. You can download Freedom immediately for 10 dollars, (…) (Freedom, n.d.)”.

Alongside the anecdotal evidence, Ariely and Wertenbroch (2002) provide empirical evidence of the existence of precommitment strategies through an experiment involving students. The students had to hand in 3 compulsory essays by the end of the semester, but were allowed to set their own deadlines. Any delays would be penalised. It would be rational, in absence of self-control problems, to choose the last day of the term as deadline for all three essays. However, only 27 percent of the students chose this option.

On the choice between an upcoming small reward and a larger reward in the future, Elster (2000, pg 31) outlines four different strategies to overcome hyperbolic discounting: “Making the choice of the early, smaller reward physically impossible (…); imposing a sufficiently large extra cost on the choice of the early reward (…); setting up a sufficiently large reward for the choice of the later reward (…); by the imposition of a mandatory and sufficiently long delay between the time of the choice and the time at which the reward is made available to the agent (…).”

More concretely, Laibson (1997) shows how "golden eggs", meaning illiquid assets, can be used as a precommitment strategy for saving. Laibson assumes a hyperbolic utility model, as above, with sophisticated agents. The agent prevents his future self from consuming savings by investing in illiquid assets. The model assumes, however, that it is impossible to borrow against these "golden eggs". Financial innovation that reduces the illiquidity of assets therefore also reduces the savings rate. Furthermore, Laibson et al (2001) use the same framework to explain why so many Americans save for retirement and keep credit card debt at the same time.

Gugerty (2005) proposes precommitment as an explanation of ROSCA participation, based on a study from western Kenya. “Saving requires self discipline, and ROSCAs provide a collective mechanism for individual self-control in the presence of time-inconsistent preferences and in the absence of alternative commitment technologies” (ibid, pg. 3). As above, individuals are assumed to have a quasi-hyperbolic utility function. Depending on the time inconsistent discount factor β, an individual may renege on his original decision to save in the next period. By joining a ROSCA, the person becomes committed to saving, with defaulting being the other option.

Ashraf et al. (2009) designed a commitment savings product that was offered to a group of bank customers in the Philippines, through a randomized controlled trial. The product restricted access to savings until a certain time, or until the account had reached a certain amount. 28.4 percent of the bank customers who were offered this product (the treatment group) accepted it, and significantly increased their savings compared to the control group.

3.3 Household conflicts

An individual’s options may also be limited by external constraints, also within the household. Decision-making in the household is usually modelled in one of two ways: The unitary approach, which treats the family like a single agent, and the non-unitary approach, which models decision making as a bargaining game (Lundberg and Pollak, 2008). Gary

Becker is an influential proponent of the former approach. In his "A Treatise on the Family", Gary Becker assumes an altruistic head of the family (Pollak, 2003): "In my approach the 'optimal reallocation' results from altruism and voluntary contributions, and the 'group preference function' is identical to that of the altruistic head, even when he does not have sovereign power" (Becker, 1981, in Sen, 1987. pg.15). Similarly, Paul Samuelson (1956, in Lundberg and Pollak, 2008, pg.1) models a household which "agree to maximize a social welfare function of their individual utilities, subject to a joint budget constraint that pools the income received by the two family members". What these two versions of the unitary approach have in common is that household conflict is basically assumed not to exist.

In non-unitary models, the agents in the household have distinct preferences. These models can be divided into new categories, depending on the assumption of Pareto efficient outcomes and other distinctions. Amartya Sen (1987) presents a non-unitary approach to household conflicts with conflicting interests in the light of pervasive cooperative behaviour. He particularly discusses how a party's bargaining power is influenced by her welfare if cooperation breaks down, what her interests are perceived to be, and her perceived contributions, and by extension, claims, to the household. Sen further argues that the extent to which women are involved in income-earning activities affect both their breakdown positions and perceived claims.

Lundberg and Pollak (2008, pg. 6) argue that empirical findings support a non-unitary approach:"A large number of recent empirical studies have rejected (the assumption of income) pooling, finding that earned and unearned income received by the husband or wife significantly affect demand patterns when total income or expenditure is held constant." One example is Duflo's (2003) analysis of the expansion of the old age pension in South Africa after democratization. She found that girls in households with female pensioners (who became eligible after the expansion) increased their weight given height by 1.19 standard deviations and height given age by 1.16 standard deviations, reflecting improved nutritional status. Male pensioners in the household did not have any significant effect. Duflo (2003, pg. 22) concludes that "the most important result of the paper may then be that this very large cash transfer had no effect if it was received by a man. This strongly rejects the unitary model of the household (...)."

Ashraf (2009) organised an experimental study of intra-household financial decisions in the Philippines by giving sums of money to married men and women. She found that men were more likely to keep the money if the wife didn't know about it, commit it to consumption if she knew about it, and give it to her if the couple were allowed to negotiate. For men to hand over their income to their wives who decide how to spend it expected in the cultural setting of the experiments, and it was mainly men from these households who wished to keep the money. However, women in those households where men controlled savings decisions behaved similarly to men in households where women made the decisions. Ashraf therefore argues that the effect depends on which gender controls savings decisions, not gender per se. As an example she refers to Kenya: "Kenya, a culture which has the opposite gender norms for financial management from the Philippines, many women form "secret savings societies" to keep extra income they earn in the workplace out of their husband's knowledge" (Ashraf 2009, pg. 31).

In a different paper by Ashraf et al. (2006), presented in 3.2 above, the authors found that women were more likely than men to accept the offer of a bank account with restricted access. The authors “put forth the idea that this is due to the Philippine tradition of women being responsible for household finances, and hence more in need of finding solutions to temptation or savings problems” (ibid. pg 668).

Anderson and Baland (2002) put forward intrahousehold resource allocation as an explanation of ROSCA participation, using evidence from Kenya. By building a model of the household, the paper demonstrates that joining a ROSCA is an opportunity for women to protect savings from husbands who claim it for immediate consumption. One respondent summarised this as: “You cannot trust your husband. If you leave money at home, he will take it.” Furthermore, women’s bargaining position in the household follows ROSCA participation as an inverted-U. This means that women with little bargaining power may not be allowed to join a ROSCA, while women with much power don’t need too.

3.4 Extended family and egalitarian norms

In societies with strict egalitarian norms, an individual who wish to save may face demands from extended family or neighbours. (There are also many potential benefits from living in egalitarian societies, but this debate is beyond the topic of my thesis). As a background for egalitarian norms, Platteau (2000) argues that reciprocal transfers can serve as mutual insurance in situations of persistent risk and uncertainty of income:

> The rationale of egalitarian norms that can be strongly enforced upon all community members follows from the following fact: individuals who have willingly entered into local networks of reciprocal transfers with a view of insuring themselves against various contingencies may choose to opt out whenever they have accumulated enough wealth after a series of good shocks to self-insure adequately (Platteau, 2000, pg. 198).

In the context of mutual insurance, the community therefore has an incentive pursue egalitarian levels of wealth. In addition to preventing defection from successful members, Platteau (referring to Roger, 1969) argues that egalitarian norms stem from cultural views that attribute success to mere luck, which in turn makes sharing only fair. These demands will consequently constrain capital accumulation and business development. The egalitarian norms also make borrowers less obliged to repay loans from wealthier community members, which in turn make potential lenders less willing to offer credit.

Platteau refers to egalitarian norms in traditional agrarian societies, defined as "tribal societies in which classes are absent and the only existing social differentiation is along sex and age lines" (ibid, pg. 189). He does however point out that egalitarian norms are not necessarily confined to the traditional agrarian societies from which they originate:

> (…) the negative effects of traditional norms of generosity and redistribution in terms of incentives to saving and innovation are not confined to the countryside but may also affect modern cities where many proprietors are unable to resist kinship demands to any great extent, especially so in Sub-Saharan Africa" (Platteau, 2000, pg. 209)

Fafchamps (1992) proposes a different narrative by focusing on patron-client relationships:

> The rich promise to help the poor in times of hardship and, in particular, to insure the poor against starvation. Since the rich have little to gain from a risk-pooling

> arrangement with the poor, the poor have to reciprocate in some other ways.(...) The protection against starvation guaranteed by the patron's wealth significantly improves the expected utility of his client(s). Yet over time, transfers of labor help the rich get richer and may lead to the concentration of wealth in his hands" (Fafchamps, 1992, pg 161)

In this situation, poor people benefit from having a rich "patron" and would not wish to hold him back. Even though this line of thought is different from the egalitarian norms framework above, Platteau (2000) acknowledges that the two can coexist, especially when patrons emerge from traditional elites.

Platteau's argument of egalitarian norms is supported by an interesting paper on funeral attendance in rural Zimbabwe. Barr and Stein (2008) use funeral attendance as a proxy for the diseased individual's status, and find that there is a negative relationship between income and status. This can be interpreted as a punishment from the community for violating an egalitarian norm. Barr and Stein further argue that the findings constitute strong evidence against the patron-client approach, summarised as follows: "The status-insurance hypothesis stated that there is a positive relationship between economic prosperity and status because the poor bestow status upon the rich in exchange for help in times of need" (ibid, pg. 16)

The argument that egalitarian norms constrain capital accumulation finds support in a study of credit cooperatives in Cameroon (Baland et al. 2007). The starting point is that what the authors describe as "puzzling borrowing behaviour: more than 20 % of loans are fully collateralized by liquid saving available on the borrowers' saving account" (ibid, pg. 2). Based on in-depth interviews, the authors argue that taking loans in these instances are signals to surroundings that the borrowers don't have a lot of money. Pretending to be poor can thereby help the borrowers avoid fulfilling traditional solidarity obligations.

4 Savings constraints and the poor

We have seen examples above of how the institutional arrangements of different forms of saving and borrowing can help poor individuals overcome their own present-biased preferences or claims from others.

4.1 Financial needs

In *Portfolios of the poor,* Collins et al. (2009) show how intricate the financial practices of the poor can be. The authors used a method called financial diaries, where they followed 250 households in three countries over a full year, interviewing them twice a month to track their cash flows. They found that poor people lead much more complex financial lives than both big economic surveys and small anthropological studies have been able to capture. Among the 250 households, none used fewer than four types of financial instruments through the course of the year. The average number was 10 in Bangladesh, 8 in India and 10 in South Africa. The instruments are defined broadly, and include practices such as borrowing from neighbours, saving under the bed, and so on.

The authors further define three different needs that drive the financial activity of poor households:

> *1*. Managing basics*: cash flow management to transform irregular income flows into a dependable resource to meet daily needs.*
> *2*. Coping with risk: *dealing with the emergencies that can derail families with little in reserve.*
> *3.* Raising lump-sums*: seizing opportunities and paying for big-ticket expenses by accumulating usefully large sums of money (*Collins et al., 2009, pg. 18).

Focusing on raising lump-sums, Rutherford (2009) separates between life-cycle events, emergencies, and business opportunities. Life-cycle events are events that are costly, but that can be anticipated. Rutherford includes both events that happen through the course of a life time, such as weddings, child-births, home-building and funerals, and events that reoccur every year, such as religious festivals, payment of school fees, and fertilizer for agriculture.

Emergencies are in their nature both sudden and unanticipated, and can be divided between personal and impersonal emergencies. The former includes illness and loss of income, while the latter would include natural disasters. Business opportunities are possibilities to start or expand business or buy land or other productive assets.

The various financial tools have different properties, and the poor people use a combination of several imperfect tools to cover the needs above as well as possible. An important distinction is between saving and borrowing. Collins et al. (2009) refers to loans as "accelerators" and saving tools as "accumulators", while Rutherford (2009) uses the terms "saving down" for borrowing and "saving up" for traditional saving. Collins' terms underline that borrowing means getting the lump sum immediately, while Rutherford's terms underline that both practices are ways of raising lump sums. In fact, Rutherford (2009) argues that the distinction between saving and borrowing becomes blurry when loan cycles are short and repeated time after time: "In each case the client is using the service to swap a series of small regular pay-ins (or savings) for a usefully big pay-out" (ibid, pg. 21). To illustrate, Rutherford refers to case studies where he found it difficult to determine whether a person was a money lender or deposit collector.

4.2 Overcoming savings constraints with savings clubs

"Accumulators", or tools for saving up, come in many different forms. Some of these tools are difficult to justify without taking weakness of will or claims from spouse or extended family into account. One example is the system of "moneyguarding", which is when an individual keeps her savings with a relative, neighbour, employer, or someone else she trusts, to make sure the savings are not spent. Collins et al. (2009) argue that this system is more common than the literature suggests. It is not unusual that two neighbours keep money for each other at the same time. Moneyguarding can clearly be described as a precommitment strategy, as having to go to the neighbour to ask for the savings adds a cost to immediate consumption.

A different example is "saving-up clubs", which means that a group of people agree on a schedule for saving. The members of a saving-up club will meet, perhaps weekly or monthly, with the amount previously agreed upon. The money is usually pooled and kept in one place until the term ends. Then the pot is shared and a new cycle begins (ibid.). Joining such a club is clearly a commitment to future saving, and it prevents savings from being spent before the goal is reached. However, the other members will not be worse off if one member defaults (aside from a possible increased risk of more defaults and an unravelling of the club), which reduces their incentives to socially sanction the defaulter. The members also run the risk that the person holding the money may steal it.

ROSCA's are similar to saving-up clubs. However, in a ROSCA, each member will get the whole pot at every meeting, until everyone has received it. This means that everyone but the last one receives her lump sum sooner than if she saved on her own (Anderson et al., 2009). This motivation is however dismissed by Gugerty (2005) who propose an explanation based on self-control and Anderson and Baland (2002) who explain ROSCA participation as a strategy for women to keep savings from being spent by their husbands; both discussed above. A main difference from the saving-up club is that each individual would be tempted to stop contributing after she has received the pot. Anderson et al. (2009) demonstrates that ROSCAS are unsustainable in the absence of social sanctions. Saving in ROSCAs therefore carries a certain risk.

A more advanced version of the saving-up club is the ASCA (Accumulating Savings and Credit Association). In an ASCA, members are allowed to borrow from the accumulated savings by paying an interest rate (Collins et al., 2009). This means an increased pay-off at the end, but also a risk that the borrower may default.

4.3 Overcoming savings constraints with microcredit

We have seen examples of how an individual can use various kinds of savings clubs to overcome the savings constraints discussed in the literature review. Can microcredit be used the same way? Loans, or "accelerators", have the obvious advantage of giving immediate access to cash, and usually the disadvantage of requiring interest. There are several reasons why an individual would choose to borrow rather than save, and people may have different combinations of motivations. If she can invest in a business that will increase her income to the extent that she has money left when the interest is paid, she is better of borrowing than saving. She may also expect a higher income in the future, and therefore borrow to smooth consumption over time. Loans may also be taken to pay for emergencies, or to have money available in case an emergency should one occur. If there are no safe place to keep savings, borrowing may be a way of reducing risk.

But borrowing can also be a strategy to overcome challenges that are similar to those the saving-up clubs and ROSCAs addresses, namely weakness of will and claims from spouse and extended family. Collins et al. (2009, pg. 110) provide a good example with the story of a woman who negotiated a $20 loan with 15 percent monthly interest from a moneylender, while at the same time keeping $55 in a liquid savings account. Her explanation was: "Because at this interest rate I know I will pay back the loan money very quickly. If I withdrew my savings it would take me a long time to rebuild the balance". This is in fact a precommitment strategy that adds an extra cost to consumption compared to saving/repayment, and may help her overcome present-biased preferences.

In the case of the PRIDE loan, the client gets the loan in advance and pays it through the course of one year. The interest rate is a flat 30 percent. When a loan is taken, the whole MEC is jointly responsible, and the MEC can therefore enforce sanctions if a person defaults. The line of thought of the woman in the example above does not apply to PRIDE-members, as the total amount of interest remains the same whether the loan is repaid sooner than scheduled or not. But if a PRIDE-member takes a loan to buy any indivisible good he needs, the threat of sanctions will make him very likely to repay the loan.

Let us assume that an individual wants to buy an indivisible good. However, each evening she gets more utility from consuming her daily earnings than saving them, alternatively that her husband or extended family claims it. She is therefore unable to save. Figure 1 illustrates this type of situation. By taking a loan, she can afford to pay for the indivisible good. After taking the loan, the choice each evening is not between saving and consumption, but between repayment and consumption with the consequences of not repaying. If the consequences are serious enough, she gets more utility from repayment than consumption. These consequences would also reduce the claims from her spouse and extended family, if they know about them and care about her well-being. Paying interest and other inconveniences are the costs of using this “lump-sum generating instrument”.

A question that remains is why this individual doesn’t choose an instrument to help her save instead, if we assume that the timing of when she receives the lump-sum is not important. Risk aversion is one possibility, as savings in ROSCAs and other forms of informal savings clubs may be stolen, while loans are handed out in advance. Savings clubs may also be less committing than taking a loan (Berge, n.d.). These questions will be revisited briefly in the in-depth interviews.

Present-biased preferences may in fact prevent an individual from leaving an MFI such as PRIDE. He may decide that he doesn’t need another loan, and would prefer to keep the money usually spent paying interest. However, when the last repayment is made and he is offered a new loan, he will be tempted to walk home with his pocket full. Rutherford (2009) gives examples of this from the original Grameen model in Bangladesh, which is similar to the PRIDE model. The loans were supposed to be for business development, and members offered increasing loans for each cycle. Many of the borrowers spent the loans on other purposes and benefitted from this. However, as they were offered larger loans, they were tempted to accept them. As the loans were not invested in income-generating activities, the household budget remained constant while the total amount of interest increased. This led to increasing repayment problems and default.

The phenomena of weakness of will, claims from spouse, and claims from extended family have that in common that they all pose challenges to an individual who wish to save. But as we have examples of weakness of will from many times and societies, claims from spouse and extended family appear to be more dependent on other factors, such as poverty and tradition. The argument of claims from extended family is based on mutual insurance and egalitarian norms. Various forms of mutual insurance are clearly more important for people living in poverty with uncertain income and expenses. If the rural relatives of a given PRIDE-member who experience that he is being excessively taxed by claims from extended family were given the opportunity of a safer and higher income, the claims would be reduced. The extended-family explanation is also based on a somewhat different mechanism, as it is, according to Baland et al. (2007), the signal effect that matters.

Similarly are there many variables that affect women's position in the household. Although I have referred this constraint as "claims from spouse", it is clearly women who are the marginalised party in most both households and societies. Sen (1987) argued that the bargaining power of each party in the household is influenced by his/her welfare if cooperation breaks down. As the husband in most cases has higher income and more physical strength, he has the power to drastically reduce the wife's welfare. This is clearly not the full picture or even true in all circumstances. Social norms and traditions are also important. Furthermore, Anderson and Baland's (2002) model of the ROSCA as a tool for increasing women's bargaining power in the household predicts that women who are completely disenfranchised will not benefit from joining. This argument is just as relevant for PRIDE-members.

I have argued that overcoming three kinds of savings constraints is a plausible explanation why people decide to borrow from PRIDE Tanzania. However, the importance of these constraints compared to other types of motivation must be addressed empirically.

5 Empirical findings

The aim of the empirical investigation is to address the question of to what extent joining PRIDE can be described as strategy for overcoming constraints to saving. These constraints include weakness of will and claims from spouses and relatives. It is not possible to find systematic differences between PRIDE-members and non-members, as our sample of respondents include only PRIDE-members. I therefore address these questions by examining the respondents' behaviour, i.e. how they spend their loans and what savings instruments they use. The former tell us to what extent the loans are spent on income-generating purposes, as a high share spent on investment would be an argument against the savings constraints explanation. Moreover, if the saving practices show that the respondents do not have access to any instruments for saving; the actual savings constraint could be merely a lack of ways to keep money safe. I also have the respondents' opinions of the different explanations, taken from the questionnaires of the 2011 survey, and the respondents' views of saving and borrowing taken from in-depth interviews. The last section of empirical findings is an experiment that addresses the question of household dynamics.

5.1 Data collection

All data in this thesis were collected as a part of the research project on entrepreneurship and microfinance by the team from Norwegian school of Economics. All quantitative data are based on three surveys of a sample of PRIDE clients, undertaken in 2008, 2009, and 2011. The first dataset has 644 observations, the second has 530 and the third has 452[2]. I personally participated in the last survey as a research assistant. I also have qualitative data in the form of 7 transcribed in-depth interviews that were undertaken in 2008.

The survey interviews were for the most part undertaken in the client's home or place of business, by either one or two interviewers. The interviewer(s) would read questions and fill in the questionnaire. The respondents were explained that the questions were asked for research purposes and that the interviewers were independent from PRIDE and would not pass on any personal information to them. But although the interviewers explained that they were independent, we cannot rule out the possibility that respondents answered certain

[2] The last survey had more than 452 observations, but the last ones were not available at the time of writing.

questions with answers they believed the interviewers or PRIDE wanted to hear, or that they themselves could benefit from in the future. This is perhaps particularly relevant for opinion questions, where there are no “correct answers”. Such challenges are documented by Karlan and Zinman (2007), who compared survey self reports with administrative data among recipients of high-interest consumer loans in South Africa. They found that 47% of the respondents failed to report that they had any formal sector loan.

The respondents in the sample were randomly chosen among those who had reached at least 500 000 Tsh on the loan ladder in 2008. This means that there has been selection process where those who didn’t find it beneficial to continue after the first year were not considered for the sample.

Comparing PRIDE-members with non-members statistically is not possible, as the sample only includes members. The comparisons and regressions therefore focus on gender differences and the household conflict motive. However, by including excerpts and findings from in-depth interviews, we can also get an idea of the importance of the self-discipline motive and the extended family motive. They also give us an indication of the mind-sets of the entrepreneurs. The in-depth interviews were designed and undertaken by Lars Ivar Berge in 2008. The views expressed in these interviews are very similar to those I met in conversations with entrepreneurs. I have therefore decided to use the 2008 interviews, which are properly transcribed, instead of my personal notes from my own interviews.

5.1.1 Regression analysis

I have undertaken regressions to describe the gender difference on some of the topics below. I do not aim to formally prove causality, but merely describe the correlation between variables. All the dependent variables are binary, and I have therefore only used the *probit* model. I have also used the same control variables in most of the regressions: Years of education; age; whether the respondent is Muslim; PRIDE branch; whether the respondent received business training; number of children living in the house; and stated income from all businesses in 2009. Education is included because it is generally accepted as a tool for female empowerment, and the female clients have on average slightly more years of schooling. Age is included to check for a generation gap in attitudes. It was furthermore important to control for religion, as there are more Muslim men than women in the sample. PRIDE branch is included to check for any systematic difference between the two branches. Business training was also included on similar grounds. Children was included because the literature review show that women generally spend more than men on their children, and this may thus be a source of conflict in the household. Lastly, I control for income, though with two years of lag because of availability of data. I return to these regressions (included in the appendix) in sections 5.6 and 5.7. I have used the software *Stata* for all calculations.

5.2 The PRIDE member

The majority of PRIDE-members are women, and female clients make up 65.5 % of the original sample. More men (74.7%) than women (56.6%) in the sample are married and living with their spouse. In the 2011 survey, these figures have increased to 87.8 and 66.6% respectively. This suggests that many of the respondents have gotten married in this period, or that unmarried respondents are more mobile and therefore harder to track down.

Table 1: Civil status by gender, 2011

Civil status	Female	Male	All
Married, living with spouse	66,6 %	87,8 %	73,9 %
Married, not living with spouse	1,0 %	0,6 %	0,9 %
Divorced	9,1 %	2,6 %	6,9 %
Co-habiting	2,4 %	2,6 %	2,4 %
Partner, not co-habiting	1,4 %	1,9 %	1,5 %
No partner	6,8 %	3,2 %	5,5 %
Widowed	11,5 %	1,3 %	8,0 %
Other	1,4 %	0,0 %	0,9 %
Total	100,0 %	100,0 %	100,0 %

The table shows the civil status of the sample from the 2011 survey. We find that a larger percentage of women relative to men are either widowed or divorced. Unfortunately, we do not have the data to tell us whether this is because PRIDE attracts women who are divorced or widowed, or this happens after they have joined PRIDE. In fact, the starting point for Anderson and Baland's hypothesis (2002) was an observation that an overwhelming majority of ROSCA participants were women, and that married women were more than non-married likely to be participate.

Table 2: Characteristics of the respondents, 2008

		Profit	Sales	Loan	Commerce	Service	Manufacturing
Women	Mean	516341.3	2187640	772274.9	.6966825	.4407583	.1113744
	S.d.	408782.3	3743246	238590.6	.4602368	.4970673	.3149686
Men	Mean	590393.6	3062518	766666.7	.7027027	.2567568	.2342342
	S.d	498932	3405939	238522.3	.4581014	.4378313	.4244764
All	Mean	541868.7	2489228	770341.6	.6987578	.3773292	.1537267
	S.d	442954.7	3651635	238396.4	.4591543	.4850951	.3609669

		Agricult.	Employees	Age	Education	Muslim	Children	Fin. Resp.
Women	Mean	.0545024	1.033175	37.92417	8.040284	.6255924	1.865385	3.752747
	S.d.	.2272757	1.680922	8.257376	2.162252	.484544	1.253539	1.748472
Men	Mean	.036036	1.18018	37.3018	7.734234	.7297297	2.218274	4.558376
	S.d	.186801	1.52623	8.806307	2.035121	.445103	1.350764	1.967308
All	Mean	.0481366	1.083851	37.70963	7.934783	.6614907	1.989305	4.035651
	S.d	.2142213	1.62956	8.448978	2.122699	.4735705	1.298306	1.866666

Table 2 describes key statistics from the 2008 sample. Profit is the respondents' own estimates of their monthly profit from all businesses. Sales are monthly sales. Employees refer only to paid workers. This can include family members, but not the spouse. Commerce, service, manufacturing and agriculture are the share of clients involved in each of these sectors. Age refers to the respondents' age in 2008, and education refers to years of education. Muslim describes the share of Muslim respondents, as opposed to Christian. "Children" refers to the number of children who live with the client (not necessarily their own) and "Fin. Resp." refers to the number of people the client has financial responsibility for. The two latter categories are from 2011.

Men have somewhat higher sales and profit, and on average slightly more employees. As for religion, we find a notably larger share of Muslim among men than woman. We further note that a more or less equal share of men and women are involved in commerce, the largest sector. Typical examples of commerce are small kiosks selling drinks, snacks and phone vouchers, and markets stalls selling agricultural produce. However, the category includes everything from hawkers selling DVD's on the street to businesspeople who import goods from China.

Women outnumber men in services, partly because many female entrepreneurs have small restaurants or make and sell *chapati* on the street. Hair salons, repair shops and renting out rooms or three-wheeled taxis are other examples. On the other hand, men outnumber women in manufacturing. Typical examples of manufacturing businesses are tailoring, making bricks or furniture. Very few of the respondents are involved in agriculture, as they live in urban areas. We also note that men have somewhat more children living with them, probably because more men are married, and that men report to have financial responsibility for more people than women do.

The majority of PRIDE members in our sample are not best described as poor by Tanzanian standards. In a microfinance context, Hirschland (2005, pg. 4) defines the distinction between poor and non-poor as whether "current income is reliable and large enough to consistently cover minimum food, health care, and shelter." We find that only 10 percent answer that they or their families have ever gone without enough food in the last year, and only 4.2 percent have gone without enough food more than once or twice. As for income, the median estimated monthly profit for the sample in May 2009 was 407212 Tanzanian shilling, while the average was 661499 Tsh. This would translate to US $285 and US $ 463 respectively, with the exchange rate of 0.0007 used in May 2009 (Oanda, 2011). In comparison, the National Bureau of Statistics Tanzania (2002) reports that the mean household income in Dar es Salaam was 40767 Tsh per household member, while the national average was 17928 Tsh.

We also have some information on the household dynamics from the 2011 survey. Notably, we find that 65.0 percent of married women (45.6 of all women) got financial support from their husband the previous month, while only 4.3 percent of married men (3.2 percent overall) got financial support from their wives in the same period.

Summarising the descriptive data on the PRIDE-members, we find that they have certain characteristics that suggest they may be vulnerable to the abovementioned constraints to saving. As the average respondent has a higher income than the average Tanzanian, he may be expected to support less fortunate members of the extended family. We also find that men have a higher income than women, and that married women are more likely than not to receive support from their spouses while men are hardly ever supported by their spouses. The latter suggest that it is common for husbands to share their income with their wives, who then take responsibility for the household. This gives the basis for conflicting preferences and uneven distribution of bargaining power in the household.

5.3 Access to instruments for saving

A possible explanation for why the PRIDE members choose borrowing instead of saving is that there are no safe places to keep savings. Rutherford (2009) illustrates with the example of deposit collectors in India, who people pay as much as 30 percent annual interest to keep their money safe. However, table 3 shows that the PRIDE members use a variety of saving devices. Note that the table shows the percentage of the sample that uses the mentioned saving instruments at the time of the survey in 2011, not the percentage of the sample that can access these when they want to. Note further that the different categories in this table are broader than the ones we find in Collins et al (2009).

Table 3: Saving instruments (percentage of sample, 2011

Saving instrument	Women	Men	Total
PRIDE	65,2	72,4	67,7
Other microfinance institutions	4,7	1,3	3,1
ROSCA	21,6	5,1	15,9
ASCA	15,2	8,3	12,8
Mobile phone savings	17,6	21,2	18,8
Formal bank	65,2	57,1	62,4
Relatives or business partners	33,8	41,7	36,5
ROSCA and/or ASCA	33,5	13,5	26,6
Any, except PRIDE	85,1	80,1	83,4

We also find that (not included in the table) more unmarried than married women keep a bank account (70.7 vs. 60.1%). Furthermore, the distinction between having “airtime”, meaning prepaid credit, and keeping savings on the cell phone is not clear. 15 % has 10 000 Tsh or more, while 10 % has 40 000 Tsh or more.

Notably, 62.4 percent keep savings in a formal bank. This means that a safe and interest bearing form of saving is an option for most of the sample. When asked about the formal banks, some of the clients complained that these were not well suited for their daily needs. One member put it like this: “You know the nature of our business. We earn small profits; we can't take that to the bank. Also, I work from six to six, and the bank closes at four. When do you want me to go?” The last statement is interesting in light of the weekly compulsory meetings at the PRIDE office. We also find that 33.5 percent of all women also participate in a ROSCA or ASCA. The PRIDE category refers to the compulsory savings with PRIDE, which all respondents who are still members keep.

We also notice that more men than women keep savings with relatives or business partners. Keeping savings with someone is in this context the same as lending to them. As the category includes both relatives and business partners, we cannot say whether this means that men send more money to extended families.

5.4 Loan expenditure

In the introduction I argued that the share of loans spent on business is an indicator of what motivates people to join PRIDE. The conventional justification for microcredit is that it should be spent on income-generating purposes that will make the previously capital-constrained borrower able to both repay the loan with interests and keep a profit. As the loans are expensive, spending them on predictable expenses that don’t increase income, what Rutherford (2009) defines as “life-cycle” events, appear sub-optimal compared to financing these expenses through savings. The presence of constraints to saving could explain why a substantial share of the loans is spent on such purposes. However, we have to keep in mind that money is fungible. Savings originally intended for school fees may be spent when emergencies occur, and borrowing may be the only option left when the fees are due. Table 4 presents how the PRIDE clients in our sample use their loans. The figures are taken from the 2009 survey, with 530 observations.

Table 4: Loan expenditure, 2009

Type of expenditure	Average share of loan, percent			Percentage of sample who spent parts of the loan on this purpose		
	Men	Women	Total	Men	Women	Total
Buying stocks (including replacement)	47,47	41,11	43,33	80,00	81,45	80,94
Business investments- smaller investments like furniture, cooking equipment etc	7,45	5,94	6,47	17,30	18,26	17,92
Business investments - new premise	3,66	3,92	3,83	8,11	7,54	7,74
Business investment – renovation	2,06	2,71	2,48	5,41	8,12	7,17
Business investment – livestock	0,92	0,47	0,63	1,08	0,87	0,94
Taxes / Public fees	0	0	0,00	0,00	0,00	0,00
Other business expenditures	3,43	2,99	3,14	10,27	10,43	10,38
Buying land / plot for housing	8,91	6,65	7,44	16,22	11,30	13,02
Paying school fees	3,19	8,48	6,64	10,27	26,38	20,75
Hospital/drugs	0,54	0,42	0,46	0,54	2,03	1,51
Buying TV (for the home)	0,27	0,07	0,14	0,54	0,29	0,38
Buying Furniture (for the home)	0,31	0,51	0,44	1,08	1,74	1,51
Other household investments	3,76	7,15	5,97	9,73	16,52	14,15
Contributions to extended family and friends (gifts or contributions to weddings, social and religious events, illness, funerals, etc)	1,21	0,93	1,03	2,16	3,19	2,83
Other household consumption	2,64	3,94	3,48	12,43	17,68	15,85
Savings, putting aside for later usage	11,77	12,97	12,55	35,14	36,52	36,04
Lending money to others	1,27	0,51	0,77	2,70	2,03	2,26
Paying back loan to other	0,95	0,57	0,70	3,24	2,32	2,64
Other, non-business	0	0,11	0,07	0,00	0,58	0,38
Other business	0,19	0,32	0,27	0,54	0,87	0,75
Cannot remember	0,02	0,23	0,15	0,54	0,58	0,57
Total	100,02	100,00	100,00	217,30	248,70	237,74

When we add up all categories of business related expenditure, we find that the average share of loans spent on these purposes is 60.2 percent. 25.7 percent is spent on various household expenses, and 14.0 percent on saving or lending to others. We also find gender differences, in that men spend a slightly higher share of the loans on total business expenditure than women do, with 65.2 and 57.5 percent respectively. Women, on the other hand spend more than men on other expenditures, with 28.5 against 21.0 percent. This is consistent with the household allocation motive, as this implies that women may have to borrow to make sure that the expenditures they find important can be paid for.

It is interesting that stock (or inventory) makes up such a large share of the loan expenditure. As long as a business has enough stock to keep it running, one would assume that additional stock could be financed by income from previous sales. One possible explanation is that the borrower is starting a new business or significantly expanding an old one. In that case, she may need to pass a certain threshold before she has enough stock to start earning. It may also be the case, however, that spending the income on additional stock is difficult because of the internal and external constraints to saving. Buying stock may also be a strategy to make savings less liquid, and therefore more difficult to spend. Only an average share of 16.8 percent of the loans is spent on investment.

School fees are expenses that can be anticipated. These "life-cycle events" do not increase the borrower's income, and she would prima facie be better of financing these expenses by savings. School fees are also the expenditure with the largest gender difference, as women clearly spend much larger share of their loans on this purpose. We note from the table that more than one in four women spend some of the loans on school fees. This fits with the picture painted by Anderson and Baland (2002), who refer to several studies that find that women spend a larger share of their income on children than men do. Taking PRIDE loans could therefore be a strategy for women to make sure that they will be able to pay school fees.

The share spent on contributions to extended family is marginal. This is not surprising: Both if there were no significant claims from extended family, and if there were claims and the respondent joined PRIDE to avoid them, would we expect the share of the loans spent on extended family to be small.

5.4.1 Timing of disbursements

In the 2011 survey, we also asked whether the respondent would prefer to receive the loans in a specific month of the year, and if so, why. Comparing these findings with the loan expenditure table give us an indication of whether or not the loans are spent in accordance with their long run preferences.

Table 5: Preferred month of loan disbursement

Preferred month of disbursement	Women count	Women %	Men count	Men %	Total count	Total %
January	33	23 %	12	12,8 %	45	19,1 %
February	0	0 %	2	2,1 %	2	0,8 %
March	5	4 %	3	3,2 %	8	3,4 %
April	6	4 %	1	1,1 %	7	3,0 %
May	3	2 %	9	9,6 %	12	5,1 %
June	17	12 %	7	7,4 %	24	10,2 %
July	13	9 %	6	6,4 %	19	8,1 %
August	7	5 %	11	11,7 %	18	7,6 %
September	6	4 %	2	2,1 %	8	3,4 %
October	7	5 %	5	5,3 %	12	5,1 %
November	4	3 %	2	2,1 %	6	2,5 %
December	31	22 %	29	30,9 %	60	25,4 %
Ramadan	6	4 %	2	2,1 %	8	3,4 %
Month after R.	2	1 %	1	1,1 %	3	1,3 %
Month before R.	2	1 %	2	2,1 %	4	1,7 %
Total	142	100 %	94	100 %	236	100 %

We found that 52.2 percent of the sample would, for various purposes, prefer to receive their loans in a specific month. Table 5 shows that December and January are the months most people wish to receive loans. In January, paying school fees is by far the most important reason. For December, the clients mention increasing stock before the holiday season, as well as upcoming school fees in January. June, July and August are frequently mentioned as good months for business.

While the loan expenditure table tells us how the loans are spent, this table tells us something about how the respondents wish to spend their loans. We find that around 10 percent of the entire sample would prefer to receive their loans in a specific month (January, June or December) to pay school fees. This is quite consistent with the findings from table 4, and suggests that this in fact was their motivation for joining PRIDE. For these borrowers, spending their loans on school fees is a planned decision, not because some emergency left them with no other options. Among those who didn't specify school fees as their reason for preferring loans in a specific month, almost everyone wish to spend their loans on stock. Some explain that the stock they need is less expensive at this time of the year, while other wish to expand the stock before the busy times of the year when demand increases. This share makes up about 40 percent of the total sample, near the average share of the loans spent on stock in table 4.

5.5 Interviews

The in-depth interviews undertaken by Lars-Ivar Berge in 2008 provide clear indications of the presence of constraints to saving. The respondents were asked a range of questions on saving and borrowing, and I will present and discuss excerpts of some the answers. Generally, all of the respondents support the existence of constraints to saving by stating that savings kept at home are easily spent on other purposes. It is not always clear, however, whether this is because the client is tempted to spend it himself, or because of claims from spouse or extended family.

"Reginald", a 42 year old man, explained the difference between saving at home and borrowing from PRIDE like this: "There is a tendency of spending money/savings for activities not intended for while kept at home. I can say 75 percent of small entrepreneurs fall on this problem. (...) It is easy to achieve your goal in time when you borrow and pay back the loan, since one would have to work hard not to have assets confiscated."

“Ngasuma”, a 37 year old woman, has a similar answer to the question “why did you decide to borrow?”: “Because it is hard to save. Look here, whenever I pay back the loan I have savings of 1500 every week and it is not easy to go and draw it back any time because there is contract between PRIDE and the client. But it is opposite when I keep the money in my house; it is easy to draw it and buy something I want at any time even if I am aiming at reaching an important goal.”

Furthermore, “Moses”, a 36 year old man says that: “It is very hard to save in our environments due to social problems surrounds human beings. For example, if I am to save 1 Million for a certain period, I might be tempted to use part or the whole savings before I reach my goal whenever I am exposed to social problems. But it is easy to pay shillings 27,100 as loan instalments without noticing difference from the business and in this way after 50 weeks one would found he/she has unexpected savings.”

The statements from Reginald, Ngasuma and Moses illustrate the presence of constraints to saving: Money kept at home will be spent, not saved. Borrowing is a way of making sure the long term goal is reached, although this is more expensive way of financing than saving is. Interestingly, both of the latter statements refer to repayment of loans as a form of saving. This is in line with Rutherford’s (2009) argument that the difference between saving and borrowing diminishes when the loan cycles are short and repeated several times. Reginald furthermore refers to a precommitment strategy when he says that one has to work hard not to have assets confiscated. By taking the loan, he adds an extra cost (confiscation of assets) to the option of consuming instead of saving.

On a side note, “Beauty”, a 37 year old woman, illustrates that the short run “temptations” are not necessarily wasteful indulgences: “It is not easy to save money in the house; you will be tempted to use it when you face challenges like sickness and all that. As human beings you will face challenges like pregnancy, malaria and hunger that will force you to use it”.

Related to the question of household bargaining, Ngasuma was asked whether she had heard of household quarrels caused by loans: “Aaa! Many. When household assets are confiscated where a woman takes a loan without informing her husband and failed to payback. Sometime it is when a woman saves her money at and her husband takes it for drink.”

Furthermore, Joseph (38) where asked whether women borrow for a specific reason: “Yes. In some household there is no trust between husband and wife that drives women to opt borrowing for her own expenditures like buying furniture, clothes, decorations, and sometimes to assist her relatives. This happened where a woman doesn’t have her own source of income and husband doesn’t have enough money to spend on woman’s preference.”

Ngasuma’s outburst is very much in line with the question of household allocation discussed in the literature review. She gives the example of a wife that wishes to save and a husband who wishes to spend the money on something that gives him immediate satisfaction. Joseph provides more of a male perspective, and he refers to clothes and decorations as examples of how women want to spend their loans. The statements of Ngasuma and Joseph are clear indications of the presence of conflicting interests in the household. Especially the suggestion that some women take loans without their husbands’ knowledge supports the household conflict motive.

As for the extended family motive, “Beauty” was asked whether pressure from relatives had any implications for her savings practices: “Relatives pressures are there always. I cannot refuse giving assistance to my relatives if they encounter problems even if is borrowed money as long as I have it at home.” When asked whether he would ever lend money from PRIDE to a relative, “Robert”, a 54 year old man, replies that: “No, loan is for business only. You know, when you go for loan you already plan what you are going to do so it is not easy for you to alter the plan.” It is not easy to interpret whether the difference between Beauty and Robert is due to having different relationships to relatives, or because the question to the latter emphasised that they were referring to money from PRIDE. Nevertheless, Beauty provides a good illustration of how claims from relatives may make it difficult to save.

The respondents were also asked about ROSCAs as an alternative for raising lump sums. However, the respondents with experience with ROSCAs complain about the risks involved. Ngasuma says that: “ROSCA is a local form of savings and is very risky. In ROSCA there is no surprise to lose money just by being told somebody has disappeared with the money or has not paid or the money has been stolen. Therefore, we don’t fully rely on ROSCA (it is either lose or gain game).”

“Samafilan”, a 41 year old woman, complained over the ROSCA she used to be a member of:” In ROSCA there is no formal contract and people are highly untreatable.” When asked why she wanted to join the ROSCA in the first place, she replied: “To keep savings away from home. You know what; women are easily tempted to spend money for consumption so there is no way this savings is going to be safe if kept at home or in house.” Samafilan’s statement supports Gugerty’s (2005) hypothesis, which suggest that women join ROSCAs to keep money away from home. But both Ngasuma and Samafilan point to the risks involved when dealing with informal savings devices. Joining an MFI like PRIDE would both reduce the risk compared to a ROSCA and help the individual avoid keeping savings in the house, as I have argued above.

A final point from the in-depth interviews is related to loan expenditure. We have seen above that a large share of the loans (43 percent on average) is spent on stock. “Robert”, a 36 year old male PRIDE-member, explains that “A good businessperson doesn’t make savings in terms of cash. Instead they keep stock. For example in harvesting period one would buy large stock of grain say rice at a low price and sell it in the post harvest period at higher price. Typical example is the price of rice, in a three months period the price has increased by shilling 350 per kg.” Robert thus point out that the timing of when stock is bought is not irrelevant, as well as that buying stock can both be a way of saving and a way of making money.

The weakness of in-depth interviews is clearly that they are not necessarily representative for a larger population. However, this thesis aims to demonstrate that the presence of constraints to saving is a motivation for joining PRIDE, not necessarily the only or the most important motivation. The in-depth interviews give clear indications of PRIDE being a solution for people who find it difficult to save because of their own weakness of will (“it is easy to draw it and buy something I want”), conflicting interests in the household (“(…) a woman saves her money at and her husband takes it for drink.”), or claims from extended family (“I cannot refuse giving assistance to my relatives (…)”).

5.6 Opinions from survey interviews

Also answers from the survey interviews demonstrate that the presence of constraints to saving motivate PRIDE-members to borrow. The respondents were asked to evaluate potential reasons for why they chose to borrow instead of saving the last time they took a loan. The table shows how many agreed somewhat or strongly to the respective statements:

Table 6: Opinions on saving, 2011

	Women	Men	Total
I am not disciplined enough to save on my own	17.6 %	17.9%	17.7%
My spouse will spend the savings on other purposes if he/she knows I have it.	15.7 %	10.3%	13.8%
I will have to spend all or some of the savings on my extended family if they know I have it.	13.2%	15.4%	13.9%

The numbers tell us that self discipline and claims from spouse or relatives are a constraint to saving for a minority of the sample, and self discipline to a somewhat larger extent than the other two. The numbers are more likely to be underestimated than overestimated, as the statements puts respondents in a bad light, and moreover are inconsistent with PRIDE's focus on business. But although the magnitudes of these figures underline that what is put forward in this thesis is a supplementary explanation, they still clearly demonstrate that savings constraints is a motivation for joining PRIDE for some people. It is also worth noting that the household allocation motive is seen as no more important than the two others. Although I present more evidence on the household allocation motive below, it doesn't necessarily follow that this is a more central explanation than the other two.

Moreover, we get more information on the household conflict motive by comparing men and women on the question of spouse's expenditure. We find that women to a larger extent than men say their spouses will spend the savings. However, the difference is not significant at this sample size when controlling for other background variables (table A1).

Gender differences were an important topic in the 2011 survey, in light of the previous result of women not benefitting from business training. The respondents were asked whether they agreed the most with statement A or statement B, and table7 shows the results.

We find that most men and women agree that men join PRIDE with a clear ambition to grow their businesses, and that men invest in their businesses before they invest in their families. But while women answer that women behave similarly to men, men answer that women will prioritise their families. This difference between men and women is most obvious when 90.9% of the male respondents prefer “in a marriage, the husband typically makes all major investment decisions” to “in a marriage, the wife typically has the power to make major investment decisions “, while only 51.2% of women agree. These results are interesting. If we assume that the respondents use their personal experiences as the basis for decisions, the results may suggest that the female PRIDE-members have more decision-making power than the wives of male members. As Anderson and Baland (2002) proposed, women need to have a certain level of bargaining power to benefit from the ROSCA, our in our case, MFI.

Table 7: Gender and business

Statement	Women	Men	Total
A: Most females join PRIDE primarily to make ends meet, not to grow their businesses	22,0 %	41,0 %	28,5 %
B: Most females join PRIDE with a clear ambition to grow their businesses	78,0 %	59,0 %	71,5 %
A: Most males join PRIDE primarily to make ends meet, not to grow their businesses.	13,9 %	10,3 %	12,6 %
B: Most males join PRIDE with a clear ambition to grow their businesses	86,1 %	89,7 %	87,4 %
A: In a marriage, the husband typically makes all major investment decisions.	51,2 %	90,9 %	65,0 %
B: In a marriage, the wife typically has the power to make major investment decisions	48,8 %	9,1 %	35,0 %
A: A female with a loan will invest in her family before she invests in her business	14,2 %	31,4 %	20,1 %
B: A female with a loan will invest in her business before she invests in her family	85,8 %	68,6 %	79,9 %
A: A male with a loan will invest in his family before he invests in his business	11,5 %	8,3 %	10,4 %
B: A male with a loan will invest in his business before he invests in his family	88,5 %	91,7 %	89,6 %

The results can also be partly explained by men and women having different definitions of business. The respondents were presented with a fictional story of *Juma’s* fruit juice business and asked whether or not a number of expenses should be considered business expenses. We find that 42.5% of the whole sample considered school fees for Juma's daughter to be business expense. This includes 48.3 % of women and 31.4 % of men. The difference is significant, as shown in table A2.

Moreover, the claim that men generally have a more dominant position in the household is supported by findings from the 2009 survey, which I have referred to above. In this survey 79 percent of men reported that they knew their wives income in a normal month, while only 45 percent of the women knew their husband's income. The regression in table A3 demonstrates that the difference is highly significant, also when other background variables are controlled for. I have mentioned earlier that the majority of men support their spouses in a normal month, but only a very small minority of women do the same. If the husband and wife have different preferences in household, as the hypothesis predicts, the husband will have an incentive to keep any extra income and not tell his wife. Not knowing her husband's income clearly reduces the wife's bargaining power in the household.

5.7 The lottery

The questionnaire included a small experiment with the purpose of describing household dynamics. The client was informed that among the people interviewed, 5 people would be selected to win 100 000 Tsh (around 60 USD) through a lottery. Each client was also given the opportunity to name one person to be given a "ticket", and thereby the same chance of winning as him or herself. This ticket could not be transferred, however. Both the client and the named second person would be contacted by phone if one of them were to win.

If we view the household a single unit, we would assume that every client named her spouse to double the household's chance of winning. On the other hand, if the husband and wife have conflicting interests, this is no longer as straightforward. If one of them wins, both will know. If the client is the party in the household that has the power to control the money no matter who wins, he or she would sensibly choose the spouse. If the client will not be able to control the money, he or she would be more likely to choose someone else. In this way, the lottery experiment will show who has the bargaining power in the household. The respondents have no reason to lie, as may sometimes be the case with direct questions where the respondents fear losing face.

Table 8: Choice of recipient in lottery, 2011

Recipient	# Women	% Women	# Men	% Men
Spouse	60	36,59 %	66	56,41 %
Parent	1	0,61 %	1	0,85 %
Sibling	21	12,80 %	6	5,13 %
Friend	13	7,93 %	11	9,40 %
Business partner	1	0,61 %	3	2,56 %
Child	53	32,32 %	15	12,82 %
Relative	13	7,93 %	9	7,69 %
Other	2	1,22 %	6	5,13 %
Total	164	100,00 %	117	100,00 %

This table shows the results for married women and men. Interestingly, we find large differences between men and women. Men choose their wives 56.4 % of the times, while women choose their husbands only 36.6 % of the times. Women are almost just as likely to choose a child as her spouse, and also more likely to choose a sibling

The regression A4 tells us that the difference between men and women in choosing their spouse is significant, also when controlling for the usual right-hand side variables. The result that women are much less likely to name their spouses gives a clear indication of females having less bargaining power in the household. This is in line with the argument I have made above, and supports the hypothesis that women use PRIDE as a tool to ensure that they are able to finance lump-expenses they find important. The loan expenditure table tells us that school fees are such an expense. If the woman would have been unable to pay for school fees without borrowing, because the husband wants to spend the money otherwise, then being a PRIDE member implicitly improves the woman’s bargaining power in the household.

In table A5, I replace the dependent variable with a dummy that shows whether the married respondent chose a child, and the picture changes somewhat. The control variables age and profit are both significant and positive. We find that men are less likely to choose a child for the second ticket, but also that the older the respondent is, and the higher income he has, the more likely he is to choose a child. This is probably because the age of the respondent is correlated to the age of their children, and that there are disadvantages associated with naming a young child. It could possibly also be seen as an intergenerational transfer in the context of marriage or other life-cycle needs, and that the mother is more eager to do so than the father. The alternative intergenerational transfer explanation is probably also supported by the positive effect from income. The higher income the PRIDE-member has, the more she can afford to give away.

When we shift to sibling as a dependent variable (table A6), the effect of age becomes negative, which may suggest that those who are unwilling to share with their spouses may choose a sibling if the children are too young. We also note that the gender is no longer significant on conventional levels.

6 Conclusion

In this thesis, I have made the argument that overcoming constraints to saving can supplement conventional explanations for why people wish to borrow from microfinance institutions. I have presented three different kinds of constraints to saving from the literature: Present-biased preferences, conflicting interests in the household, and claims from extended family. The literature shows how these constraints can be overcome with different financial tools. Based on the approaches of Collins et al. (2009) and Rutherford (2009), I have argued that microcredit can be seen as such a tool.

I have also presented empirical data that support my hypothesis, with quantitative data from surveys of PRIDE-members in 2008, 2009 and 2011, and qualitative data from in-depth interviews from 2008 and 2011. The respondents report that a large share of the loans is spent on other purposes than business, contrary to the intentions of PRIDE. Notably, many women use parts of their loans paying their children's school fees, in accordance with the explanation of conflicting interests in the household.

The in-depth interviews also give strong indications of the presence of constraints to saving. The respondents say that savings kept at home will be spent on other purposes than intended, and give examples of all three abovementioned explanations. Although in-depth interviews cannot be claimed to be representative for a larger sample, their responses show that these constraints do exist. Furthermore, the in-depth interviews complement the quantitative data by explaining how these are concerns in the daily lives of the respondents.

The 2011 survey also contained questions where the respondents were asked to evaluate statements related to the savings constraints. 17.7% agreed partly or fully that they borrow because present-biased preferences make it difficult to save, 13.8% that conflicting interests in the household make it difficult to save, and 13.9% that claims from extended family make it difficult to save. These figures confirm that these constraints are real, although the magnitudes show that this is not the main reason why people borrow. More married women than married men agree that their spouses will spend their savings, although the difference is not significant at this sample size and when controlling for other relevant background variables. However, the finding that men are much more likely than women to know their spouse’s income gives a strong indication that women have less bargaining power in the household.

The lottery experiment from the 2011 survey underlines the same finding on household bargaining power. The result that married men are much more likely than married women to choose their spouses in the lottery demonstrate that men have a much greater saying when deciding how the family’s income will be spent. Women choose their siblings and children to a much greater extent, which suggest women have more influence over them than their husbands. The lottery experiment is interesting because the respondents don’t have to justify their choices, and “actions speak louder than words”.

Because of the nature of available data, the empirical investigation has focused on the household allocation motive. Data on loan expenditure, in-depth interviews, questions from the surveys and the lottery experiment tell more or less the same story. Women are generally in the weaker position in the household, this makes it difficult to save for some women, and borrowing from PRIDE is then a way of making sure that school fees and other expenses are paid for. It is not the only reason why women join PRIDE, but it is still significant and relevant. The explanations of weakness of will and claims from extended family have not been addressed as thoroughly, but both the in-depth interviews and survey questions indicate that both are important.

Although it has been known for a long time that the poor have financial needs beyond credit, and that borrowers of microcredit spend their money on many other purposes than business, credit has remained the central component of microfinance. But the mood is changing, and there’s a growing recognition that microfinance institutions have to give more focus to savings and other services (Microfinance Gateway, n.d.). If the new savings products are designed in a way that properly addresses these constraints to saving, paying school fees would be a lot less expensive to many women.

References

Anderson, S. and Baland, J-M. (2002): "The Economics Of Roscas And Intrahousehold Resource Allocation," *The Quarterly Journal of Economics*, MIT Press, vol. 117(3), pages 963-995, August

Anderson, S.; Baland, J-M. and Moene, K. O. (2009): "Enforcement in informal saving groups", *Journal of Development Economics*, 90(1), s 14- 23

Ariely, D. and Wertenbroch, K. (2002): Procrastination, Deadlines, and Performance: Self-Control by Precommitment, *Psychological Science*, 13, 219-224

Armendáriz, B. and Morduch, J. (2010), "*The Economics of Microfinance*", 2nd edition, MIT Press

Ashraf, N. (2009): "Spousal Control and Intra-household Decision Making: An Experimental Study in the Philippines." *American Economic Review*, 99(4): 1245–77

Ashraf, N.; Karlan, D.; Yin, W. (2006): "Tying Odysseus to the mast: Evidence from a commitment savings product in the Philippines", *The Quarterly Journal of Economics*, May

Baland, J-M.; Guirkinger, C. and Mali, C. (2007): "Pretending to be poor: borrowing to escape forced solidarity in credit cooperatives in Cameroon", Draft July 2007

Banerjee, A.; Duflo,E.; Glennerster, R.; Kinnan, C (2010): "The miracle of microfinance? Evidence from a randomized evaluation", available from http://economics.mit.edu/files/5993

Barr, A.; Stein, M. (2008):"Status and Egalitarianism in traditional communities: An analysis of funeral attendance in six Zimbabwean villages", The Centre for the Study of African Economies Working Paper Series, Paper 306

Bateman, M. (2010): "*Why Doesn't Microfinance Work? The destructive rise of local neoliberalism*", Zed Books, New York

Becker, K. F. (2004): "The Informal Economy", Sida fact finding study, available at http://rru.worldbank.org/Documents/PapersLinks/Sida.pdf

Berge, L.I.O.; Bjorvatn, K.; and Tungodden. B. (2011): “Human and financial capital for microenterprise development: Evidence from a field and lab experiment”, NHH Dept. of Economics Discussion Paper No. 1/2011

Berge, L.I.O. (2011): "Entrepreneurship in development: Four essays on microfinance and business training", Ph.D. thesis, Norwegian School of Economics

Berge, L.I.O. (no date): “The multiple reasons for joining a loan group”, unpublished working paper

Chiappori, P-A. and Donni, O. (2009): "Non-unitary Models of Household Behaviour: A Survey of the Literature", IZA DP No. 4603

Collins, D.; Morduch, J.; Rutherford, S; Ruthven, O.; 2009, “*Portfolios of the Poor: How the World’s Poor Live on $2 a day*”, Princeton University Press

Duflo, E. (2003):“Grandmothers and Granddaughters: Old Age Pension and Intra-household Allocation in South Africa,” *World Bank Economic Review* 17(1): 1-25,

Elster, J. (2000): "*Ulysses Unbound: Studies in Rationality, Precommitment, and Constraints",* Cambridge University Press

Fafchamps, M. (1992):"Solidarity Networks in Preindustrial Societies: Rational Peasants with a Moral Economy", *Economic Development and Cultural Change*, Vol. 41, No. 1, pp. 147-174

Financial Sector Deepening Trust (2007): "FinScope E-book", available from http://www.finscope.co.za/tanzania.html

Frederick, S.; Loewenstein,G. and O'Donoghue, T. (2002): "Time Discounting and Time Preference: A Critical Review", *Journal of Economic Literature*, 40, pp. 351-401,’

Freedom (n.d.): http://macfreedom.com/, accessed 5.10.2011

Gugerty, M. K., 2007, "You Can’t Save Alone: Commitment in Rotating Savings and Credit Associations in Kenya", *Economic Development and Cultural Change*, Vol. 55, No. 2 (January 2007), pp. 251-282

Henriksen, G. L. Svoldal, S.O. (2010): "The Impact of Providing Business Training to Microfinance Clients: Empirical Evidence from Tanzania", Master's thesis, Norwegian School of Economics

Hirschland, M. (ed.) (2005): “S*aving Services for the Poor: An Operational Guide*”, Kumarian Press

IMF (2011): http://www.imf.org/external/pubs/ft/weo/2011/02/weodata/weorept.aspx?sy=2000&ey=2012&scsm=1&ssd=1&sort=country&ds=.&br=1&c=738&s=NGDP_R%2CNGDP_RPCH%2CPCPIPCH&grp=0&a=&pr.x=103&pr.y=14, accessed 17.10.11

Karlan, D. and Zinman, J. (2007): "Lying about Borrowing", *Journal of the European Economic Association Papers and Proceedings*, December

Laibson, D. (1997): “Golden Eggs and Hyperbolic Discounting”, *Quarterly Journal of Eonomics*, 112, 443-477

Laibson, D.; Repetto, A.; Tobacman, J. (2001): "A Debt Puzzle", NBER Working Paper No. 7879

Lundberg, S. and Pollak, R. A. (2008): “Family "Decision-Making", *The New Palgrave, Dictionary of Economics*, 2nd Edition, available at http://apps.olin.wustl.edu/faculty/pollak/Palgrave%20Family%20Decisions.pdf

MIXmarket (2011): http://www.mixmarket.org/mfi/country/Tanzania/flatstore_mfi_mfdb_data.mix_diamonds__c%2Cbalance_sheet_usd.gross_loan_portfolio%2Cproducts_and_clients.total_borrowers%2Cproducts_and_clients.total_women_borrowers%2Ccalculation_usd.write_off_ratio/0, accessed 23.10.11

National Bureau of Statistics Tanzania (2002) "Household Budget Survey", available online from http://www.tanzania.go.tz/hbs/HomePage_HBS.html

Oanda (2011) http://www.oanda.com/currency/historical-rates/, accessed 13.9.2011

O'Donoghue, T. and Rabin, M. (1999): "Doing it Now or Later" in *American Economic Review*, 89, pp. 103-124

Platteau, J-P. (2000): "*Institutions, Social Norms, and Economic Development*", Harwood Academic Publishers

Pollak, R. (2003): "Gary Becker's Contributions to Family and Household Economics," *Review of Economics of the Household*, Springer, vol. 1(1), pages 111-141, January

PRIDE Tanzania (n.d.): http://www.pride-tz.org/pinner.asp?cat=prodserv, accessed 12.9.2011

Rabin, M. (1998): "Psychology and Economics", *Journal of Economic Literature*, 36, pp. 11-46,

Rabin, M. (2002): "A Perspective on Psychology and Economics" in *European Economic Review*, 46, pp. 657-685,

Rutherford, S. and Arora, S. (2009) "*The Poor and their Money: Microfinance from a twenty-first century consumer's perspective*" 2nd Practical Action Publishing ltd

Sen, A. (1987): "*Gender and Cooperatice Conflicts*", WIDER Working Papers

UN data (2011): http://data.un.org/CountryProfile.aspx?crName=United%20Republic%20of%20Tanzania#Summary, accessed 17.10.2011

UNDP: http://hdrstats.undp.org/en/countries/profiles/TZA.html, accessed 17.10.2011

Microfinance Gateway (n.d.): http://www.microfinancegateway.org/p/site/m/template.rc/1.11.48257/, accessed 30.10.2011

Appendix

Table A1: "My spouse will spend the savings"

```
Probit regression                                 Number of obs   =        333
                                                  LR chi2(8)      =       7.83
                                                  Prob > chi2     =     0.4506
Log likelihood = -110.15311                       Pseudo R2       =     0.0343

------------------------------------------------------------------------------
spousespen~r |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        male |  -.2121111   .1991013    -1.07   0.287    -.6023424    .1781202
        educ |  -.0352963   .0429603    -0.82   0.411    -.1194968    .0489043
       age11 |   .0037467   .0114118     0.33   0.743      -.01862    .0261135
      muslna |   .0156224   .2049268     0.08   0.939    -.3860267    .4172715
    buguruni |   .1856173   .1905338     0.97   0.330    -.1878221    .5590567
      dtreat |   .2340198   .1908515     1.23   0.220    -.1400422    .6080818
childrenlive |   .0084837   .0748499     0.11   0.910    -.1382195    .1551868
    profit09 |  -2.89e-07   1.84e-07    -1.58   0.115    -6.49e-07    7.07e-08
       _cons |  -1.141575   .7193253    -1.59   0.113    -2.551427    .2682763
------------------------------------------------------------------------------
```

The dependent variable `spousespen~r` *is a dummy which takes the value 1 for the outcome "somewhat or strongly agree" to "my spouse will spend the savings on other purposes if he/she knows I have it". Only observations from married respondents are included, as the question is refers specifically to the spouse of the respondent. The variables included are gender (male); years of education (educ); age (age11); whether the respondent is Muslim (muslna); PRIDE branch (buguruni); whether the respondent received business training (dtreat); number of children living in the house (childrenlive); and stated income from all businesses in 2009 (profit09).*

Table A2: "School fees is a business expense"

```
Probit regression                                 Number of obs   =        452
                                                  LR chi2(3)      =      18.58
                                                  Prob > chi2     =     0.0003
Log likelihood =  -298.8767                       Pseudo R2       =     0.0302

------------------------------------------------------------------------------
schoolfees~a |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        male |  -.4547638    .131556    -3.46   0.001    -.7126088   -.1969187
 marriedlive |   .1471399   .1398106     1.05   0.293     -.126884    .4211637
      dtreat |  -.2768468    .120337    -2.30   0.021     -.512703   -.0409905
       _cons |  -.0081215   .1317408    -0.06   0.951    -.2663288    .2500858
------------------------------------------------------------------------------
```

The dependent variable schoolfees~a is a dummy that takes the value 1 for considering school fees to be a business expense. The right hand side variables are gender (male); being married (marriedlive); and business training (dtreat).

Table A3: “I know my spouse’s income”

```
Probit regression                                 Number of obs   =        296
                                                  LR chi2(8)      =      31.58
                                                  Prob > chi2     =     0.0001
Log likelihood = -184.79252                       Pseudo R2       =     0.0787

------------------------------------------------------------------------------
     spinc09 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        male |    .835621   .1634207     5.11   0.000     .5153223     1.15592
        educ |  -.0222483   .0360536    -0.62   0.537     -.092912    .0484155
         age |  -.0007989    .009417    -0.08   0.932    -.0192558     .017658
    buguruni |    .100848   .1562274     0.65   0.519    -.2053521    .4070482
      muslna |   .1584368   .1629486     0.97   0.331    -.1609367    .4778102

      dtreat |  -.1156637   .1542164    -0.75   0.453    -.4179223    .1865949
  child71509 |  -.0788326   .0766223    -1.03   0.304    -.2290095    .0713443
    profit09 |  -1.00e-07   1.13e-07    -0.89   0.376    -3.22e-07    1.22e-07
       _cons |   .1866939   .5585401     0.33   0.738    -.9080247    1.281412
------------------------------------------------------------------------------
```

The dependent variable `spinc09` *is a dummy that takes the value 1 for knowing the spouse’s income. Only married respondents are included. The right hand side variables are gender (male); years of education (educ); age (age); PRIDE branch (buguruni); whether the respondent is Muslim (muslna); number of children between 7 and 15 (child71509); whether the respondent received business training (dtreat); and stated income from all businesses in 2009 (profit09). The dependent variable is from 2009, and some of the right-hand side variables are therefore slightly different.*

Table A4: Spouse chosen as lottery recipient

Probit regression

Number of obs	=	325
LR chi2(8)	=	14.43
Prob > chi2	=	0.0713
Pseudo R2	=	0.0323

Log likelihood = -215.94815

lottspouse~w	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
male	.4752007	.1478705	3.21	0.001	.1853799	.7650215
educ	.0123146	.0329314	0.37	0.708	-.0522297	.0768589
age11	-.0084417	.0087783	-0.96	0.336	-.0256468	.0087634
muslna	-.0425843	.1533141	-0.28	0.781	-.3430744	.2579058
buguruni	.1041942	.1428284	0.73	0.466	-.1757442	.3841327
dtreat	-.2139537	.1434174	-1.49	0.136	-.4950467	.0671393
childrenlive	.0658948	.0562194	1.17	0.241	-.0442932	.1760828
profit09	-3.63e-08	1.06e-07	-0.34	0.733	-2.44e-07	1.72e-07
_cons	-.124934	.5350281	-0.23	0.815	-1.17357	.9237018

The dependent variable `lottspouse~w` *is a dummy that takes the value 1 for choosing the spouse in the lottery. Only married respondents are included. The right hand side variables are gender (male); years of education (educ); age (age11); PRIDE branch (buguruni); whether the respondent is Muslim (muslna); whether the respondent received business training (dtreat); number of children living in the house (childrenlive); and stated income from all businesses in 2009 (profit09).*

Table A5: Child chosen as lottery recipient

```
Probit regression                                 Number of obs   =        325
                                                  LR chi2(8)      =      50.45
                                                  Prob > chi2     =     0.0000
Log likelihood = -158.35383                       Pseudo R2       =     0.1374

------------------------------------------------------------------------------
lottchildnew |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        male |  -.8301728   .1824003    -4.55   0.000    -1.187671   -.4726747
        educ |   .0306541   .0367277     0.83   0.404    -.0413308     .102639
       age11 |   .0521697   .0105384     4.95   0.000     .0315149    .0728245
      muslna |   .1553055   .1780168     0.87   0.383    -.1936011    .5042121
    buguruni |  -.0945208   .1629364    -0.58   0.562    -.4138702    .2248286
      dtreat |   .2485887   .1662229     1.50   0.135    -.0772022    .5743797
childrenlive |  -.0271762    .063338    -0.43   0.668    -.1513164     .096964
    profit09 |   3.22e-07   1.27e-07     2.54   0.011     7.35e-08    5.70e-07
       _cons |  -3.177752   .6604782    -4.81   0.000    -4.472265   -1.883239
------------------------------------------------------------------------------
```

The dependent variable `lottchildnew` *is a dummy that takes the value 1 for choosing a child in the lottery. Only married respondents are included. The right hand side variables are gender (male); years of education (educ); age (age11); PRIDE branch (buguruni); whether the respondent is Muslim (muslna); number of children living in the house (childrenlive); whether the respondent received business training (dtreat) and stated income from all businesses in 2009 (profit09).*

Table A6: Sibling chosen as lottery recipient

```
Probit regression                                 Number of obs   =        325
                                                  LR chi2(7)      =      19.91
                                                  Prob > chi2     =     0.0058
Log likelihood = -94.591902                       Pseudo R2       =     0.0952

------------------------------------------------------------------------------
  lottsibnew |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        male |  -.3882873   .2259221    -1.72   0.086    -.8310864    .0545118
        educ |  -.0156936   .0511982    -0.31   0.759    -.1160403     .084653
       age11 |  -.0521183   .0156312    -3.33   0.001    -.0827548   -.0214817
      muslna |  -.3115527   .2090951    -1.49   0.136    -.7213716    .0982661
    buguruni |   .0259354   .2065199     0.13   0.900    -.3788362    .4307071
      dtreat |   .1734952   .2064189     0.84   0.401    -.2310783    .5780688
childrenlive |  -.0634313   .0863074    -0.73   0.462    -.2325906     .105728
       _cons |   1.265017   .8246228     1.53   0.125    -.3512141    2.881248
------------------------------------------------------------------------------
```

The dependent variable `lottsibnew` *is a dummy that takes the value 1 for choosing a sibling in the lottery. Only married respondents are included. The right hand side variables are gender (male); years of education (educ); age (age11); PRIDE branch (buguruni); whether the respondent is Muslim (muslna); number of children living in the house (childrenlive); and whether the respondent received business training (dtreat).*